

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for determining agonist-activity to a cytokinin receptor, comprising:

(1) bringing an examinee substance into contact with a cell transformed with DNA comprising a cytokinin receptor gene, wherein the transformed cell expresses said cytokinin receptor from said DNA;

(2) determining an existence or level of intracellular signal transduction from said cytokinin receptor; and

(3) comparing the existence or level determined in (2) with a second existence or level of intracellular signal transduction from said cytokinin receptor determined in the absence of said examinee substance;

wherein said cytokinin receptor is selected from the group consisting of:

(a) a cytokinin receptor comprising the amino acid sequence of SEQ ID NO:6;

(b) a cytokinin receptor comprising the amino acid sequence of SEQ ID NO:2;

(c) a cytokinin receptor comprising the amino acid sequence of SEQ ID NO:4;

(d) a cytokinin receptor comprising the amino acid sequence of amino acids 196 to 1176 of SEQ ID NO:2;

(e) a cytokinin receptor comprising the amino acid sequence of amino acids 50 to 1176 of SEQ ID NO:2;

(f) a cytokinin receptor comprising the amino acid sequence of amino acids 32 to 1036 of SEQ ID NO:4;

(g) a chimera-type cytokinin receptor comprising extracellular regions, transmembrane regions and histidine kinase regions, all of which are obtained from the same cytokinin receptor selected from the group consisting of CRE1, AHK2 and AHK3, and receiver regions which are obtained from the histidine kinase encoded by the gene selected from the group consisting of Sln1 gene of budding yeast, Chey gene of Salmonella, RcsC gene of E. coli and Phks gene of fission yeast; and

(h) a cytokinin receptor comprising an amino acid sequence that has 95% or higher identity to the amino acid sequence of (a), (b), (c), (d), (e), or (f), wherein said cytokinin receptor has cytokinin receptor activity.

2. (previously presented): The method according to claim 1, wherein growth of said transformed cell is controlled by intracellular signal transduction from said cytokinin receptor, and wherein said existence or level and said second existence or level of intracellular signal transduction from said cytokinin receptor are determined by measuring growth of said transformed cell.

3. (previously presented): The method according to claim 1, wherein said transformed cell is generated from a host cell, wherein said host cell is improved so as to have a lower histidine kinase activity lower than before the improvement.

4. (previously presented): The method according to claim 1, wherein said transformed cell is generated from a host cell having a lowered histidine kinase activity, wherein said histidine kinase activity was lowered by a defect in one or more histidine kinase genes.

5. (previously presented): The method according to claim 1, wherein said transformed cell is generated from a host cell having no cytokinin receptor.

6. (previously presented): The method according to claim 1, wherein said transformed cell is yeast.

7. (previously presented): The method according to claim 1, wherein said transformed cell is budding yeast.

8-19. (cancelled).

20. (currently amended): A method for determining agonist-activity to a cytokinin receptor, comprising:

(1) bringing an examinee substance into contact with a cell transformed with DNA comprising a cytokinin receptor gene, and wherein the transformed cell expresses said cytokinin receptor from said DNA;

(2) determining an existence or level of intracellular signal transduction from said cytokinin receptor; and

(3) comparing the existence or level determined in (2) with a second existence or level of intracellular signal transduction from said cytokinin receptor determined in the absence of said examinee substance but in presence of another substance;

wherein said cytokinin receptor is selected from the group consisting of:

- (a) a cytokinin receptor comprising the amino acid sequence of SEQ ID NO:6;
- (b) a cytokinin receptor comprising the amino acid sequence of SEQ ID NO:2;
- (c) a cytokinin receptor comprising the amino acid sequence of SEQ ID NO:4;
- (d) a cytokinin receptor comprising the amino acid sequence of amino acids 196 to 1176 of SEQ ID NO:2;
- (e) a cytokinin receptor comprising the amino acid sequence of amino acids 50 to 1176 of SEQ ID NO:2;
- (f) a cytokinin receptor comprising the amino acid sequence of amino acids 32 to 1036 of SEQ ID NO:4;
- (g) a chimera-type cytokinin receptor comprising extracellular regions, transmembrane regions and histidine kinase regions, all of which are obtained from the same cytokinin receptor selected from the group consisting of CRE1, AHK2 and AHK3, and receiver regions which are obtained from the histidine kinase encoded by the gene selected from the group consisting of Sln1 gene of budding yeast, Chey gene of Salmonella, RcsC gene of E. coli and Phks gene of fission yeast; and
- (h) a cytokinin receptor comprising an amino acid sequence that has 95% or higher identity to the amino acid sequence of (a), (b), (c), (d), (e), or (f), wherein said cytokinin receptor has cytokinin receptor activity.

21. (previously presented): The method according to claim 20, wherein another substance is a substance having no agonist-activity to said cytokinin receptor.

22-29. (cancelled).